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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,196	04/15/2002	Kinji Saijo	ASIJO=7	8572

1444 7590 04/15/2003

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EXAMINER

GEYER, SCOTT B

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 04/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,196

Applicant(s)

SAIJO ET AL.

Examiner

Scott B. Geyer

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. The restriction requirement made in paper no. 9 is withdrawn. All pending claims (1-8) are treated on their merits below.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 06/10/1999. It is noted, however, that applicant has not filed a certified copy of the foreign priority application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

3A. The references cited on the information disclosure statement, received December 10th, 2001 and entered as paper no. 3, have been considered.

3B. The applicant has cited a document in the specification on page 1, lines 20-21 of the specification: Japanese Patent Laid-Open No. 74807/1998. The applicant is advised to submit a copy of this document if the applicant intends for this document to be considered. It has not been considered as part of the instant office action as it was not listed on the IDS document, noted above in paragraph 3A.

/

4. This application is in condition for allowance except for the following formal matters:

Drawings

4A. Figure 12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing

correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4B. The disclosure is objected to because of the following informalities:

Page 2, lines 8-11: re-write sentence for clarification, especially lines 10 and 11;

Page 3, line 16: change "a" to - - an - -;

Page 4, line 7: change "t0" to - - to - -;

Page 7, line 21: change "having three" to - - having a three - -;

Page 9, line 8: delete "for";

Page 11, line 19: change "former" to - - form - -;

Page 12, line 24: change "treat" to - - treatment - -.

Appropriate correction is required.

4C. The abstract of the disclosure is objected to because of a minor informality as follows: on line 9: change "columnar (17) columnar conductor (17)" to - - columnar conductor (17) - -.

Correction is required. See MPEP § 608.01(b).

Claim Objections

4D. Regarding claim 5, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP

§ 2173.05(d). Applicant is advised to correct this problem to avoid a rejection under 35 USC 112, 2nd paragraph.

4E. Claims 6 and 7 are objected to because of the following informalities: delete "<1>", "<2>", "<3>" and "<4>" from claims 6 and 7.

Appropriate correction is required.

4F. Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Allowable Subject Matter

5. Claims 1-8 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: Applicant's independent claims 1, 2 and 5 are directed to an interposer for a semiconductor device, composed of copper foil and either nickel foil or nickel plating, wherein a press-bonding technique is performed to enable bonding of the two metals, and the press-bonding is done at a rolling reduction of 0.1% to 3%. The following references are cited as related art: Saijo et al. (6,150,037), Okikawa et al. (6,032,362), Mizunashi (5,736,234) and Ohara et al. (5,482,784).

The prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding:

In independent claim 1, an interposer for a semiconductor device manufactured by press-bonding copper foil and nickel foil together at a rolling reduction rate of 01.% to 3%;

In independent claim 2, an interposer for a semiconductor device manufactured by press-bonding: (1) copper foil having nickel plating on at least one surface, *with* (2) another copper foil or copper foil having nickel plating on at least one surface, at a rolling reduction of 01.% to 3%;

In independent claim 5, a method of making an interposer for a semiconductor device wherein laminating a copper foil material with a nickel foil or nickel plating is done by press-bonding at a rolling reduction of 0.1% to 3%.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (703) 306-5866. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. The examiner may also be reached via e-mail: scott.geyer@uspto.gov

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (703) 308-1233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

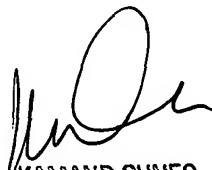
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

**SCOTT GEYER
PATENT EXAMINER**

SBG
April 4, 2003



**KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800**